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(54) Title: PHOTO-STERILIZATION

(57) Abstract: The present invention provides substances, devices, methods, and kits for photo-sterilization of a root canal, prior to and when performing endodontics, as well as periodically as post-endodontic prophylactic measures. The root-canal filling includes a light-transmitting element, operative as a diffuser, and methods are provided for communicating light to the diffuser, for disinfecting the walls of the root canals, by photo sterilization. The diffuser may be formed of silicone polymers, synthetic fused silica, quartz, or the like, and may be surrounded by a light-transmitting sealer. The diffuser may be incorporated with an endodontic post, or a specially designed post, which may be transparent and (or) hollow. In a preferred embodiment, the diffuser is formed of a light transmitting conical shell of Cyclic Olefin Copolymers (COC), filled with a fluid such as air, distilled water, or silicone oil. The COC shell is particularly advantageous as it is flexible, unbreakable, has high light transmission, conforms to the contours of the root canal, and is rather inexpensive to produce. Additionally, the present invention relates to intracorporeal photo-sterilization of the internal walls of a catheter.

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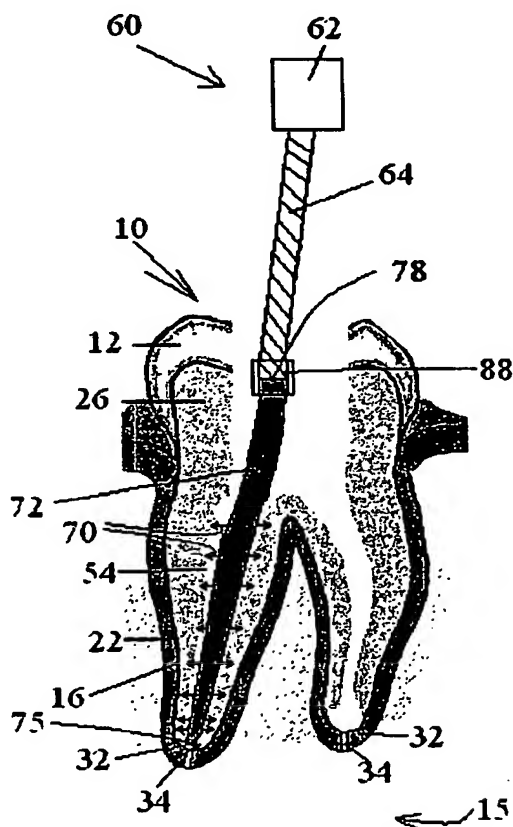
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